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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,668	12/14/2001	Lin Yue	US018204	2944

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EXAMINER

JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,668

Applicant(s)

YUE, LIN

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-12-2002, 6-4-2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1,6,17,22 (and any depending claims)** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **claim 1**, page 8 lines 17-18 state “if the strength of the first pilot signal is smaller than the first threshold value, and if the strength of the first pilot indicator is larger than the first threshold value..”. The strength of the pilot signal cannot be simultaneously greater than and less than the same threshold value. For the purpose of examination, examiner assumes the second reference to “first threshold value” (line 18) is changed to “second threshold value”.

As per **claim 6**, claim rejected for same reasons as claim 1 rejection above. The phrase in page 10 lines 23-25 is not clear.

As per **claim 17**, claim rejected for same reasons as claim 1 rejection above. The phrase in page 14 lines 14-16 is not clear.

As per **claim 22**, claim rejected for same reasons as claim 1 rejection above. The phrase in page 16 lines 24-26 is not clear.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-3,5-7,9-11,13-19,21-23,25** rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen et al. (6421540), and further in view of Butler et al. (6748010).

As per **claim 1**, Gilhousen discloses a wireless system where pilot signal strength is measured to verify the accuracy of a first and second quick-page bit received by a mobile phone. The pilot signal strength must be above a threshold (a first threshold) in order for the system to acknowledge the quick page requests (Col 5 lines 50-60, Col 7 line 40 to Col 8 line 20). However, Gilhousen does not disclose the use of a second threshold to which the pilot signal level is compared in order to enable the use of a combination of soft decisions (based on the pilot levels and first and second quick-page bit levels).

Butler discloses a quick page system (comprising one or more quick-page indicators for each quick-page timeslot) (Col 2 lines 55-57). The first and second quick-page bits are each associated (respectively) with a set of samples from the pilot channel (a first pilot signal and a second pilot signal) (Col 5 lines 33-50). In the system, if the measured level of the pilot signal is above a certain threshold (a second threshold), then

the results (soft decisions) are diversity combined (Col 4 lines 10-57). Gilhousen's system in view of Butler would compare the strength of the pilot signal portion associated with the first quick-page bit (first pilot signal), and the pilot signal portion associated with the second quick-page bit (second pilot signal) to the first threshold taught by Gilhousen, and if either of the measured pilot energies are greater than the threshold, the associated quick-page bit will be processed. If both the first or second pilot strengths are below the first threshold, but either the first or second pilot strength is above the second threshold (taught by Butler) a soft decision is made and saved for the associated quick-page bit. The results are diversity combined to make a final decision. It would have been obvious to one of ordinary skill in the art at the time of this application to utilize the second threshold and soft-decision combining of Butler in the system of Gilhousen for the advantage of providing a paging system less resistant to channel noise and fading (since there is an additional method to recover the paging data).

As per **claim 6**, claim rejected for same reasons as claim 1 rejection. Based upon the results of the pilot signal measurements, the system will process either quick-page bit (or a combination of both) and make a decision that will either alert the mobile device to decode the subsequent paging slot, or enter a sleep mode. Additionally, Butler discloses that if neither signal is received with sufficient quality (Butler's step would only occur after the first pilot level was measured to be under the first threshold), then the system will decode the subsequent paging slot (BUTLER: Col 4 lines 45-57).

As per **claims 10,16,17**, claims rejected for same reasons as claim 1 rejection as Butler and Gilhousen disclose the systems to perform the method of the claim 1 rejection.

As per **claim 22**, claim rejected for same reasons as claim 6 rejection as Butler and Gilhousen disclose the systems to perform the method of the claim 6 rejection.

As per **claims 2,18**, claim rejected for same reasons as claim 6 rejection.

As per **claims 3,5,7,9,11,13,19,21,23,25**, Gilhousen discloses that the 1st and 2nd page bits may be spaced 20 ms apart (Col 5 lines 45-65, Col 6 lines 25-40).

As per **claim 14**, the system comprises processors in a mobile device (BUTLER: Col 2 lines 15-45).

As per **claim 15**, Gilhousen (Col 7 lines 40-55) discloses that the energy of the pilot signal associated with each quick-page bit is the pilot strength for that bit.

5. **Claims 4,8,12,20,24** rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen et al. (6421540), and Butler et al. (6748010) as applied to claims 1,6,10,17,22.

As per **claims 4,8,12,20,24**, Gilhousen and Butler disclose applicant's claims 1,6,10,17,22, but they do not specify running a computer simulation to optimize the first and second page indicators.

Butler discloses that the method of the system can be carried out by software controlled processors (Col 2 lines 20-40). It would have been obvious to one of ordinary

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skill in the art at the time of this application that software simulations could be run as part of the normal design process for the purpose of testing and optimizing all parameters of the system before it is put out into final product and made available to the public (an increase in product quality).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
March 16, 2005


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
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